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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,986	09/18/2001	John W. Arba	I0168/7061 PCL	7682
23628	7590	01/02/2004	EXAMINER	
WOLF GREENFIELD & SACKS, PC FEDERAL RESERVE PLAZA 600 ATLANTIC AVENUE BOSTON, MA 02210-2211			LAWRENCE JR, FRANK M	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/954,986

Applicant(s)

ARBA ET AL.

Examiner

Frank M. Lawrence

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 6-10, 20-22 and 26-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11-19, 23-25 and 42-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-44 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

1. The instant application has been transferred for examination and is now being examined by Frank Lawrence.

#### ***Priority***

2. Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. However, the provisional application upon which priority is claimed does not list any of the same inventors as in the instant application. See MPEP 201.1 (IV). ***Information Disclosure Statement***

3. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

#### ***Election/Restrictions***

4. Applicant's election with traverse of Group I, claims 1-5, 11-19 and 42-44 in the paper August 6, 2003 is acknowledged. The traversal is on the ground(s) that the invention of claims 23-25 is disclosed as capable of use together with the invention of Group I, and that examination of all claims would place no undue burden on the examiner. This is partially not found persuasive because the examination of all groups would require the search of apparatus classes that would not be required for the search of the method claims. With respect to claims 23-25, the examiner agrees with applicants' request that they be included with and examined with Group I. Claims 6-10, 20-22 and 26-41 remain withdrawn from consideration.

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The requirement with respect to each group except for claims 23-25 is still deemed proper and is therefore made FINAL.

*Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3-5, 11, 13-16, 23-25 and 42-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Ganzi et al. (5,868,915).

7. Ganzi et al. '915 teach an electrodeionization method for producing pure water from a polluted source, comprising a cleaning step that can include using a chemical solute, temperature cycling, and/or electrical field polarity cycling or reversal to prevent fouling. The temperature cycling includes ramping from ambient to 85° C, maintaining for about 60 minutes, and cooling to ambient (col. 5, lines 47-54, col. 10, lines 17-50). Sterilization of any microorganisms present will inherently occur because of the disinfecting conditions produced are the same as in the instant specification. The presence of a heating element and controller are necessary to conduct timed heating of the cleaning solution.

8. Claims 1-5, 11-17, 23, 24 and 42-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirayama et al. (6,461,512) or under 35 U.S.C. 102(a) as being anticipated by the

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Canadian publication (2,316,012), each of which are based on the same Japanese application and contain the same disclosure.

9. Either one of Hirayama et al. '512 or CA '012 teaches a method of disinfecting an electrodeionization device and for producing deionized water, comprising flowing how water of higher than 80° C through the device for 10 minutes followed by cooling to ambient to provide substantially bacteria-free water ('512: col. 3, line 7 to col. 5, line 30; '012: pages 7-10, 13). The presence of a heating element and controller are necessary to conduct timed heating of the cleaning solution.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Hirayama et al. '512 or CA '012 in view of Tessier et al. (6,056,878).

12. Either one of Hirayama et al. '512 or CA '012 disclose all of the limitations of the claims except that the disinfecting solution includes a biocide compound or non-oxidizing compound. Tessier et al. '878 disclose a method for reducing scaling and fouling in an electrodeionization system, comprising adding an anti-scalant to the concentrate recycle stream that can include a non-oxidizing biocidal agent such as sodium bisulphate (col. 2, line 50 to col. 3, line 14). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the process of either one of Hirayama et al. '512 or CA '012 by adding a non-oxidizing

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biocide to the cleaning water in order to provide increased anti-microbial properties while preventing scale formation in the electrodeionization unit.

*Conclusion*

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The reference to JP 2002126744 A discloses a method for sterilizing an electrodeionization device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0987.

Frank M. Lawrence  
Primary Examiner  
Art Unit 1724



12-22-03

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